



## Scope and Sequence

<b>Cluster:</b>	HEALTH SCIENCE		
<b>Course Name:</b>	Health Science (One to Two Credits)		
<b>Course Description:</b>	<p>(1) The Health Science course is designed to provide for the development of advanced knowledge and skills related to a wide variety of health careers. Students will have hands-on experiences for continued knowledge and skill development. The course may be taught by different methodologies such as clinical rotation and career preparation learning.</p> <p>(2) To pursue a career in the health science industry, students should recognize, learn to reason, think critically, make decisions, solve problems, and communicate effectively. Students should recognize that quality health care depends on the ability to work well with others.</p> <p>(3) The health science industry is comprised of diagnostic, therapeutic, health informatics, support services, and biotechnology research and development systems that function individually and collaboratively to provide comprehensive health care. Students should identify the employment opportunities, technology, and safety requirements of each system. Students are expected to apply the knowledge and skills necessary to pursue a health science career through further education and employment.</p> <p>(4) Professional integrity in the health science industry is dependent on acceptance of ethical and legal responsibilities. Students are expected to employ their ethical and legal responsibilities, recognize limitations, and understand the implications of their actions.</p>		
<b>Course Requirements:</b>	<p>This course is recommended for students in Grades 10-12.</p> <p>Recommended prerequisites: Principles of Health Science and Biology</p>		
<b>Equipment &amp; Supplies:</b>	<p>Required: Single head stethoscope, Teaching stethoscopes, Sphygmomanometers (aneroid/mercuric), Thermometers (digital IV AC/thermoscope), Clock (with second hand), meter sticks or metric rulers, Manikin (adult and infant), Wheelchair, blankets, pillows, linens (draw sheet, fitted sheet, flat sheet, pillow case), anatomical charts, isolation gowns, isolation kit, gloves, masks, triangular bandages, 4 inch gauze squares, 2 inch Kling bandage rolls, 4 inch Kling, padded board splints, adhesive tape, elastic bandages, scissors, hand scrub/germicidal soap, alcohol preps, bandage scissors, non-sterile gloves, sterile gloves, overbed table, bedside table, towels (bath, hand, washcloth), wash basin, emesis basin, bedpan, urinal, catheters, urine hat container, cannula, walker, crutches, safety goggles, x-ray light box, reagent strips, acetest, goniometer, snellen eye chart, scales with height measure, wraps (paper-sterile, cloth-nylon), autoclave tape, assorted instruments, trays, computers, monitors, telephone, fax machine, voice mail system, tv/dvdplayer, internet access, email</p> <p>Recommended: Stethoscopes (dual head, specialized), Manikin - child, hospital beds, anatomical models - various parts of the body, human torso, skeleton, hamper, oxygen masks and tubing, portable oxygen, splints (leg and arm), IV bag and tubing, IV pole with wheels, backboards, spinal immobilization device cervical, dental molds, dental trays, dental instruments, X-ray mounts, sports tape, microscopes, simulated blood typing kits, prepared slides of blood, culture media, incubator, loops, glucometer, refractometer, centrifuge, urinometer, clintest, slides, coverstrips, test tubes, stains for blood and bacteria, distilled water, EKG machine, autoclave, transcription machine, multimedia projector</p>		
<b>Units of Study</b>	<b>Knowledge and Skills</b>	<b>Student Expectations</b>	<b>Resources</b>
I. Leadership	(3) The student analyzes and evaluates communication skills for maintaining healthy relationships throughout the life span. The student is expected to:	(D) evaluate the effectiveness of conflict resolution techniques in various situations.	Dombroski, Thomas, <a href="#">Creative Problem Solving: The Door to Individual Success &amp; Change</a> , Universe.com; ISBN 1583487239 Higgins, James, 101 <a href="#">Creative Problem Solving Techniques. The New Management</a> , ISBN 1-883629-00-4 Robert's Rules of Order
A. Consensus-building techniques B. Group dynamics/Parliamentary Procedures C. Problem Solving D. Conflict resolution	(7)The student identifies problems and participates in the decision-making process. The student is expected to:	(A) analyze systematic procedures for problem solving; (B) evaluate the impact of decisions; and	Diversified Health Occupations 6E, 2004 Unit 3, section4 Health Careers Today - Chapter 2 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 2E

Units of Study	Knowledge and Skills	Student Expectations	Resources
		(C) suggest modifications based on decision outcomes. (B) participate in group dynamics; and (C) integrate consensus-building techniques.	Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texasstate.com - Activities Matrix/Communication, Leadership, and Professionalism/ Employability HOSA Competitive Event Guidelines - Job Seeking Skills, Prepared Speaking, etc.
II. Communication			
A. Using medical terminology B. Evaluate clients' ability to understand communication C. Language barriers and alternative methods of communication D. Verbal and nonverbal skills E. Communication with persons with sensory loss F. Documenting medical information G. Communication Technology	(2) The student displays verbal and non-verbal communication skills. The student is expected to:  (3) The student analyzes and evaluates communication skills for maintaining healthy relationships throughout the life span. The student is expected to:  (4) The student relates appropriate information to the proper authority. The student is expected to:  (5) The student identifies documents integrated into the permanent record of the health informatics system. The student is expected to:	(A) demonstrate therapeutic communication appropriate to the situation; (B) execute verbal and nonverbal skills when communicating with persons with sensory loss and language barriers; and (C) apply electronic communication with appropriate supervision.  (A) evaluate how a healthy relationship influences career goals; (B) demonstrate communication skills in building and maintaining healthy relationships; (C) demonstrate strategies for communicating needs, wants, and emotions; and (D) evaluate the effectiveness of conflict resolution techniques in various situations.  (A) identify and retrieve reportable information; and (B) report information according to facility policy.  (A) describe document formats; and (B) compile and record data according to regulatory agency policy.	Diversified Health Occupations, Unit 7, section 4, Unit 5 Health Careers Today - Chapter 2 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texasstate.com - Activities Matrix/Communication, Leadership, and Professionalism/ Employability HOSA Competitive Event Guidelines - Job Seeking Skills, Prepared Speaking, etc.
III. Ethical and Legal			
A. Confidentiality B. Informed Consent C. Patient's Bill of Rights D. Legal Responsibilities E. Advance Directives	(9) The student evaluates ethical behavioral standards and legal responsibilities. The student is expected to:	(A) research and describe the role of professional associations and regulatory agencies; (B) examine legal and ethical behavior standards such as Patient Bill of Rights, Advanced Directives, and the Health Insurance Portability and Accountability Act; (C) investigate the legal and ethical ramifications of unacceptable behavior; and (D) perform within the designated scope of practice.	Diversified Health Occupations, Unit 7, section 4, Unit 5 Health Careers Today - Chapter 4 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texasstate.com - Activities Matrix/ Ethical/Legal HOSA Competitive Events - Biomedical Debate
IV. Employability Skills and Professionalism			
A. Personal Characteristics B. Time Management C. Chain of Command D. Careers in Health Science E. Interviewing Skills F. Resume Writing G. Completing a Job Application	(4) The student relates appropriate information to the proper authority. The student is expected to:  (6) The student describes academic requirements necessary for employment in the health science industry. The student is expected to:	(A) identify and retrieve reportable information; and (B) report information according to facility policy.  (A) research specific health science careers; and (B) review employment procedures for a specific health science career.	Diversified Health Occupations, Units 2.3, &16 HOSA Competitive Events - Job Seeking Skills www.hotjobs.org www.resume-resource.com
V. Safety and Governmental Regulations			

Units of Study	Knowledge and Skills	Student Expectations	Resources
A. Fire Safety B. Body Mechanics C. Regulating Agencies/OSHA, CDC, WHO D. Waste Management	(8) The student implements the knowledge and skills of a health science professional in the clinical setting. The student is expected to:	(A) comply with specific industry standards related to safety and substance abuse;	Diversified Health Occupations, Unit 12  <a href="http://www.cdc.gov/ncidod/dhqp/">http://www.cdc.gov/ncidod/dhqp/</a> <a href="http://www.osha.gov/">http://www.osha.gov/</a> <a href="http://www.who.int/en/">http://www.who.int/en/</a>
	(11) The student maintains a safe environment. The student is expected to:	(A) conform to governmental regulations and guidelines from entities such as the World Health Organization, Centers for Disease Control, Occupational Safety and Health Administration, Food and Drug Administration, and National Institute for Occupational Safety and Health;	
		(B) explain protocol related to hazardous materials and situations such as material safety data sheets;	
		(C) observe and report unsafe conditions; and  (D) practice recycling and waste management for cost containment and environmental protection.	
VI. CPR / AED & First Aid			
A. CPR/AED B. FBAO C. First Aid	(8) The student implements the knowledge and skills of a health science professional in the clinical setting. The student is expected to:	(H) demonstrate first aid, vital signs, cardiopulmonary resuscitation, and automated external defibrillator skills in a laboratory setting; and	Diversified Health Occupations Unit 15, American Heart Association: Heartsaver First Aid, Heartsaver AED, and BLS for Healthcare Provider <a href="http://www.americanheart.org">www.americanheart.org</a> <a href="http://www.redcross.org">www.redcross.org</a> HOSA - Emergency Preparedness Events Skills Events Guidelines and Rubrics
VII. Infection Control			
A. Standard Precautions B. Nosocomial Infections C. Sterile Technique	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(G) research the global impact of disease prevention and cost containment.	Diversified Health Occupations, Unit 13 <a href="http://www.cdc.gov/ncidod/dhqp/">http://www.cdc.gov/ncidod/dhqp/</a> Health Careers Today - Chapter 3 Health Care Science Technology: Career Foundations, 1E Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E <a href="http://www.texashte.com">www.texashte.com</a> - Activities Matrix/Asepsis HOSA Competitive Events Guidelines - Health Professions Events
	(8) The student implements the knowledge and skills of a health science professional in the clinical setting. The student is expected to:	(I) perform skills specific to a health science professional such as medical assistant, dental assistant, emergency medical technician-basic, phlebotomy technician, and pharmacy technician.	
	(11) The student maintains a safe environment. The student is expected to:	(A) conform to governmental regulations and guidelines from entities such as the World Health Organization, Centers for Disease Control, Occupational Safety and Health Administration, Food and Drug Administration, and National Institute for Occupational Safety and Health;	
	(12) The student assesses wellness strategies for the prevention of disease. The student is expected to:	(A) research wellness strategies for the prevention of disease;	
VIII. Strategies for the Prevention of Diseases			
A. Health Living B. Environmental Health C. Parenting & Paternity Awareness D. Access to Quality Health Services E. Alternative Health Practices	(12) The student assesses wellness strategies for the prevention of disease. The student is expected to:	(A) research wellness strategies for the prevention of disease;	U.S. Department of Health & Human Services - Disease Prevention FAQs <a href="http://www.hhs.gov/faq/safety/Disease%20Prevention/index.html">http://www.hhs.gov/faq/safety/Disease%20Prevention/index.html</a>  Access to Quality Health Services <a href="http://www.healthypeople.gov/Document/HTML/Volume1/01Access.htm">http://www.healthypeople.gov/Document/HTML/Volume1/01Access.htm</a>  <a href="http://www.cdc.gov/">http://www.cdc.gov/</a>
		(B) evaluate positive and negative effects of relationships on physical and emotional health such as peers, family, and friends;	
		(C) explain the benefits of positive relationships among community health professionals in promoting a healthy community;	
		(D) examine access to quality health care; and	
		(E) research alternative health practices and therapies.	
IX. Body Systems Structure and Function			
A. Basic Structure of the Human Body Planes, Directions and Cavities B. Integumentary System	(1) The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:	(E) summarize biological and chemical processes that maintain homeostasis; and	<b>Diversified Health Occupations, 6E, 2004 (DHO)</b> Delmar Learning Chpt 6. Health Careers Today - Chapter 16, 20 Health Care Science Technology: Career Foundations, 1E

Units of Study	Knowledge and Skills	Student Expectations	Resources
B. Integumentary System C. Skeletal System D. Muscular System E. Nervous System F. Special Senses G. Circulatory System H. Lymphatic System I. Respiratory System J. Digestive System K. Urinary System L. Endocrine System M. Reproductive System **Teacher may choose to incorporate appropriate skills into unit (ex. ROM with Skeletal & Muscular System)		(F) explain the changes in structure and function due to trauma and disease.	Health Careers Today, 3E Introduction to Health Occupations: Today's Health Care Worker, 6E www.texasstate.com - Activities Matrix/Anatomy & Physiology, Health & Wellness
X. Therapeutic and Diagnostic			
A. Vital Signs B. Supplies and Equipment C. Introduction to History and Physical	(8) The student implements the knowledge and skills of a health science professional in the clinical setting. The student is expected to:	(H) demonstrate first aid, vital signs, cardiopulmonary resuscitation, and automated external defibrillator skills in a laboratory setting; and	<b>Diversified Health Occupations</b> Unit 14 HOSA - Medical Assisting - Clinical, Nursing Assisting Skills Guidelines and Rubrics
XI. Occupationally Specific Knowledge and Skills			
A. Mathematical Calculations in Health Care B. Systems of Measurement C. Admission, Transfer & Discharge D. Bedmaking E. Intake & Output F. Skills specific to a Health Science Professionals Medical Assistant Dental Assistant Emergency Medical Technician-basic Phlebotomy Technician Pharmacy Technician Sports Medicine - Injury Prevention Hospital Admitting Clerk	(1)The student applies mathematics, science, English language arts, and social studies in health science. The student is expected to:  (5)The student identifies documents integrated into the permanent record of the health informatics system. The student is expected to:  (8)The student implements the knowledge and skills of a health science professional in the clinical setting. The student is expected to:	(A) solve mathematical calculations appropriate to situations in a health-related environment; (B) communicate using medical terminology; (C) express ideas in writing and develop skills in documentation; and (D) interpret complex technical material related to the health science industry.  (A) describe document formats; and (B) compile and record data according to regulatory agency policy.  (A) comply with specific industry standards related to safety and substance abuse; (B) model industry expectations of professional conduct such as attendance, punctuality, personal appearance, hygiene, and time management; (C) articulate comprehension of assignment; (D) employ medical vocabulary specific to the health-care setting; (E) perform admission, discharge, and transfer functions in a simulated setting; (F) demonstrate skills related to activities of daily living in rehabilitative care such as range of motion, positioning, and ambulation according to the health science industry standards, regulatory agency standards, and professional guidelines; (G) role play techniques used in stressful situations such as trauma, chronic, and terminal illness;	<b>Diversified Health Occupations</b> Units 17 - 21 <b>Health Careers Today</b> <b>HOSA</b> - Health Professions Events Skills Guidelines and Rubrics

Units of Study	Knowledge and Skills	Student Expectations	Resources
		(H) demonstrate first aid, vital signs, cardiopulmonary resuscitation, and automated external defibrillator skills in a laboratory setting; and	
		(I) perform skills specific to a health science professional such as medical assistant, dental assistant, emergency medical technician-basic, phlebotomy technician, and pharmacy technician.	
	(9) The student evaluates ethical behavioral standards and legal responsibilities. The student is expected to:	(D) perform within the designated scope of practice.	

### Resources: Books

Diversified Health Occupations, 6E, 2004 Delmar Learning.	1401814565
Health Careers Today, 3E, Elsevier/Mosby & Saunders.	032301867X
Dombroski, Thomas, Creative Problem Solving: The Door to Individual Success & Change.	1583487239
Higgins, James, 101 Creative Problem Solving Techniques, The New Management.	1-883629-00-4
Robert's Rules of Order: Newly Revised, Da Capo Press.	9780738203072
Health Care Science Technology: Career Foundations, 1E, Glencoe/McGraw-Hill.	9780078294129
Introduction to Health Occupations: Today's Health Care Worker, 6E, Prentice Hall.	9780130457455

### Resources: Web Sites

Health Occupations Students of America	<a href="http://www.hosa.org/natorg/sectb/index.html">http://www.hosa.org/natorg/sectb/index.html</a>
Texas Health Science	<a href="http://www.texashste.com">http://www.texashste.com</a>
U.S. Department of Health & Human Services - Disease Prevention FAQs	<a href="http://www.hhs.gov/faq/safety/Disease%20Prevention/index.html">http://www.hhs.gov/faq/safety/Disease%20Prevention/index.html</a>
Access to Quality Health Services	<a href="http://www.healthypeople.gov/Document/HTML/Volume1/01Access.htm">http://www.healthypeople.gov/Document/HTML/Volume1/01Access.htm</a>
Centers for Disease Control and Prevention	<a href="http://www.cdc.gov/">http://www.cdc.gov/</a>
American Heart Association	<a href="http://www.americanheart.org">www.americanheart.org</a>
American Red Cross	<a href="http://www.redcross.org">www.redcross.org</a>
Occupational Safety and Health Administration	<a href="http://www.osha.gov/">http://www.osha.gov/</a>
World Health Organization	<a href="http://www.who.int/en/">http://www.who.int/en/</a>
Texas H.O.T Jobs	<a href="http://www.texashotjobs.org">www.texashotjobs.org</a>
Resume Resource	<a href="http://www.resume-resource.com">www.resume-resource.com</a>